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Identifying Stakeholders and Interactions in the Dementia Café in Seongju through Empathic Service Design Approaches

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Abstract: (1) Background: As we enter the experience economy, industrial design has focused on social innovation and has flowed into social design. This fresh design perspective has been employed in citizen-centered-policymaking through empathic approaches that emphasize the necessity of public service design. Focusing on the results of a 2017 citizen design project, this study aims to identify the effectiveness of an empathic approach in improving public services through investigating stakeholders and their interactions of the Dementia Café in Seongju. (2) Methods: Our team conducted observations and interviews with 20 stakeholders to understand the operational environment of the café. Utilizing the information we gathered, we visualized data in a stakeholder map and carried out critical characteristics analysis (CC) to provide practitioners and researchers addressing the project with quick, intuitive understanding. (3) Results: Three themes were drawn from the observations and interviews conducted in the study: the sustainability of operation, locational and perceptional conditions, and management of clientele. The stakeholder map reveals broken interactions between the café's staff and its associated hospital, and a loss of opportunities to offer customized administrational dementia care through the café. In the CC analysis, service providers' patterns were vague while service receivers showed three discernable patterns indicating individualized responses to each group that might be effective. (4) Conclusions: The outcomes including difference of perspectives between the stakeholders confirm that adopting empathic approach enables various stakeholders to offer views and share ideas. Hence this approach possibly helps deliver tailored public services in a creative manner by opening and sharing government-ownership with the public. Since the research was accomplished primarily by qualitative approaches, there may still be limits caused by not including benefits of quantitative approaches in such a large-scaled survey, and these are subject to further research.

Keywords: dementia care; design thinking; empathic approach; service design; social design

1. Introduction

As we enter the era of the experience economy, in which economic value is defined by users' experience rather than by products, industrial design is expanding its domain beyond artifacts and toward services. In recent decades, we have seen design focusing on social innovation driven by social demands, rather than by commercial motivations, which has broadened the new field of social design. A recent partial amendment to South Korea's industrial design code in 2014 (Ministry of Trade, Industry and Energy, 2014) [1] shows this recent change in the design industry. With increasing attention given to experience design to improve existing products and develop new products, service design approaches based on design thinking have emerged as new tactics for identifying solutions in the public sector through citizen-centered policymaking. The Government 3.0 initiative of South Korea, since 2013, can be taken as an instance that stands for a new paradigm of the government,

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working with the public sector to envision a transparent, competent, and service-oriented government (Nam, 2013) [2]. To capture citizens' hidden needs and discover problems and opportunities in public services, task force teams called "citizen design groups" have been created. These groups mainly consist of government officials, community members and service designers. To reshape officials' work methods or policymaking processes to favor a more citizen-centered approach, the Ministry of Home Affairs of South Korea has launched experimental service design projects with the Korea Institute of Design Promotion (KIDP). This fresh approach attempts to present policymakers and government officials with opportunities to rethink policymaking and reshape public service delivery.

One of the urgent services that requires this new approach in South Korea is likely to be public dementia care. A substantial increase in the number of individuals with dementia, defined by irreversible brain pathology or simply the syndrome of substantial global cognitive decline (Breitner, 2006) [3], is associated with the aging population. Though an aging society is a worldwide phenomenon, South Korea is aging fastest. Its over-65 population was only 3.1% of the domestic population in 1970 but the percentage rose in 2000 to 7.2%, indicating an aging society (Kim, Shin, Lim, Son, 2013) [4]. In 2018, the country's over-65 population included more than 14% of the total domestic population (Ministry of interior and safety, 2017) [5]. The number of elderly people suffering from dementia in South Korea is estimated to be 702,436, including nearly 9.92% of the total domestic elderly population aged 65 or over as of 2017 (Cho, Cho, 2018) [6]. Due to the soaring speed at which South Korean society is aging, the number of dementia patients is set to dramatically increase. These numbers motivate us to treat dementia care as a societal problem rather than a matter for individuals. Hence, in early 2017, the South Korean government published an initiative indicating a national support system for dementia treatment and care, and accordingly initiated various public services to help the families of those with dementia. As part of the initiative, in the middle of 2017, a network system was established to deal with dementia issues more effectively, composed of 252 dementia community centers nationwide to deliver dementia policies to their neighbor from central organizations. In addition, the initiative includes expanding the targets of long-term care service for older adults, bolstering medical cost supports for severe dementia patients and other administrational measures (Ministry of Health and Welfare, 2018) [7].

Prior to these measures of the central government, the local government of Seongju county set up the Dementia Café in 2016, which is an information center for dementia patients and their families and a satellite office of Seongju public health center (Kwon, 2017) [8]. The Dementia Café's major responsibilities are to identify hidden dementia patients and alleviate local residents' negative perception of dementia (Choo, 2016) [9]. The café applied for the 2017 citizen design project to improve its service quality through the empathic approaches of service design. This paper, containing the results of an investigation and analysis as parts of the whole project journey, aims to identify an empathic approach in innovating public services by discovering problems in operating the Dementia Café and opportunities to make its service better through an empathic approach. To fulfill this task, it is necessary to delve into stakeholders' experiences and their needs, and accordingly set research questions as follows.

- Who are individual stakeholders and what are their hidden thoughts associated with the services of the Dementia Café in Seoungju?
- What are processes of service receivers to understand, and routes to reach the Dementia Café?
- What interactions are made or broken and who are the agents of them during the service delivery of the café?

An interpretative way to emphasize stakeholders' subjective but substantial thoughts and opinions when answering to these questions can help to grasp stakeholders' perspective, shedding light on the causes of failure in delivering the café service. Furthermore, the outcomes of adopting these answers can contribute toward demonstrating that empathic approaches are worth considering in the new paradigm of open government.

2. Literature Review

2.1. Empathic Design in Public Policy Making

2.1.1. Strength of Empathic Design Approaches in Innovating Service Quality

Nowadays, designers' working methods have been welcomed into information technology (Brooks, 2010) [10], business (Kimbell, 2011; Martin, 2009) [11,12], engineering, architecture, and other spheres. The way that designers think, it is claimed, is conducive to innovative solutions (Brown 2009; Martin, 2009) [12,13]. After examples of companies, such as IBM, GE (Kolko, 2015) [14] and Pepsi (Ignatius, 2015) [15] benefiting from embedding designers' ways into their working processes (Brown, 2009) [13], various sectors began to recognize the potential for design to change ways of inquiring, understanding and solving problems (Dym, Agogino, Eris, Frey, Leifer, 2005; Fricke, 1999; Nagai, Nagouchi, 2003) [16–18]. Meanwhile, together with this current of embracing design, the design community itself has mounted a challenge for "moving from designing things (objects) to designing things (socio-material assemblies)" (Bjögvinsson, Ehn, Hillgren, 2012, p. 102) [19]. With this shift, design has expanded its domain, and the new discipline of service design has begun to participate in improving the quality of public/private service and solving complex social issues beyond making artifacts visually attractive, which has been considered design's typical role. First introduced as a design discipline by Michael Erlhoff in 1991 (Moritz, 2005) [20], service design aims to innovate service by meeting users' and customers' needs and creating competitive edges for service providers. While innovating products or services is not new, service design achieves this innovation through a human-centered method of design thinking by valuing the qualitative aspects of the experiences of people (stakeholders or users).

Since the term "design thinking" was first seen in the title of a book by Rowe (1987) [21] and popularized by an article by Buchanan (1992) [22], diverse business communities have adopted so-called design thinking methods, believing them to contribute to the development of the competitive edge for innovation. Across diverse creative areas, an increasing number of practitioners claim that their methods are rooted in design practices or are designerly (Cross, 2007) [23], but there is no agreed definition of "design thinking". However, the strongest common denominator among deign thinking practices is user centrality, or an empathy for the human condition (Goldschmidt, Rodgers, 2013) [24]. To understand how products enter our minds rather than how they are involved in our activities, and to design for personal experiences and private contexts rather than for practical functions (Mattelmi, Battarbee, 2002) [25], we need empathic knowing (Koskinen et al., 2003) [26]. In an empathic approach, designers do not relinquish their position of "becoming users", where the designers respond to what they see as users in the users' world from their own perspective as designers (Wright, McCarthy, 2008) [27]. Working from a human-centered position, rather than being technology- or organization-centered, and going beyond participatory design (Bjögvinsson, Ehn, Hillgren, 2012) [19], the empathic and ethnographic methods offer "more texture, sophistication, and depth" than conventional consumer research methods (Suri, Howard, 2006) [28]. Their dialogical perspectives open opportunities to consider the empathic self together with, rather than separated from, the sociocultural and agentive self by prizing the importance of individual intuition and agency (Wright, McCarthy, 2008) [27].

Koskinen et al. (2003) [26] suggests that making empathy a design tool requires a set of methods to capture and translate empathy. Then, they say observation- and interview-based practices as the empathic tools for a "Designer's Radar", with two axes of depth of role and depth of context, provides a bird's-eye view into the methods. They explain that designers' tools have moved from practices of investigating imagined users in imagined circumstances, via represented users in real situations then to practices of experiencing users in real situations through observations and interviews. The latter approach seems to have become common practice in more advanced companies as empathic design practices which allow empathic understanding that is key to design not data (Figure 1). In the model,

the lower and more to the right practices are located, the closer to empathic practices they are. Then, in the model, the most empathic practice is role immersion. Vividness and uniqueness of individual cases discovered through empathic practices, otherwise probably overlooked, magnify details resonating with people and reveal new insights through less obvious patterns. These emphatic, ethnographical methods help researchers build a creative understanding of users which is an integrated, synthesized outcome based on rich user information from cognitive and affective aspects and help converse their knowing into user-centered products (Wright, McCarthy, 2005) [27].
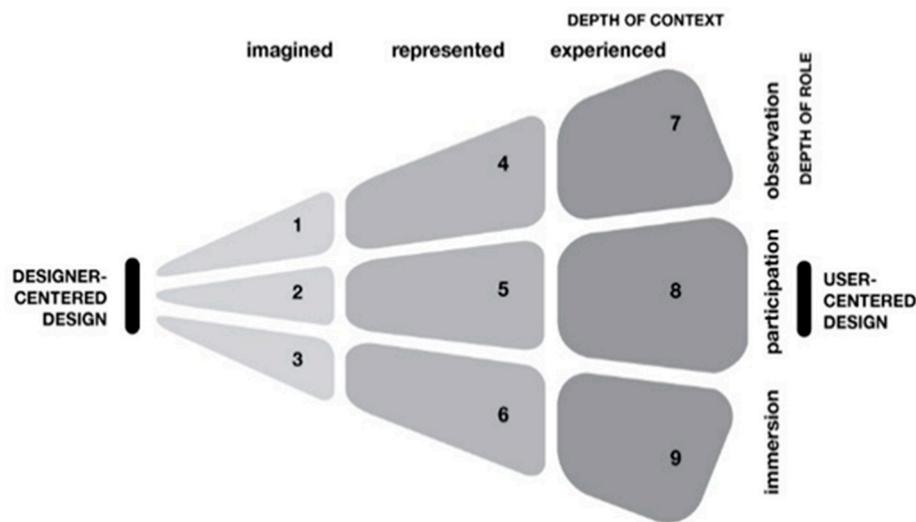

Figure 1. Designers' radar (Koskinen et al., 2003) [26].

2.1.2. Efforts to Improve Public Service through Designerly Units inside Government

Having grown through the private sector, the human-centered problem-solving perspective of design thinking and empathic approaches is able to provide critical cues for the public sector as well. Both sectors have focused on the needs of people, users-customers, and citizens respectively. These days, impressed by the effects of human-centered approaches, many countries such as Australia, Denmark, New Zealand, South Korea, Singapore, and the UK are adopting "designerly" methods to solve societal challenges. This use of design in policy is exemplified by Denmark's MindLab, and the UK's Policy Lab, which are located within their respective countries' central governments and work across departments.

Inspired by the Swedish insurance giant Skandia's innovation lab, the Skandia Future Centre, and originally built between 2001 and 2002 by the Ministry of Business Affairs as an internal incubator for creativity and innovation (Carstensen, Bason, 2012) [29], MindLab is now a collaborative cross-ministerial unit. This unit currently consists of the Ministry of Industry, Business and Financial Affairs, the Ministry of Employment, the Ministry of Education and Odense Municipality. Supported by the Danish government, the unit facilitates design-led innovation in the public sector. MindLab undertakes from seven to ten projects per year for its parent ministries, creating new solutions to public sector issues such as climate change, education, employment services, entrepreneurship, and workplace safety (Kelly, 2010) [30] all of which appear to problems that are most likely to never be fully solved. Each of the projects is performed by a team of mixed skills typically including several public servants from the sponsoring ministries with traditional public administration skills as well as team members with expertise in qualitative research and design thinking. Its approach is based on a process model that consists of seven phases: project focus, learning about users, analysis, idea and concept development, concept testing, communication of results and impact measurement (Carstensen, Bason, 2012) [31]. It specializes in facilitating discussions between public servants, citizens and businesses in community settings and then uses the outcomes to redesign public policy and

service delivery in key areas. MindLab's designerly approach creates professional empathy by helping public servants to better understand citizens and empower citizens by taking an outside-in perspective. The unit holds the belief that highly collaborative, cross-cutting approaches to public governance are possible (Carstensen, Bason, 2012) [31].

Nested in the UK Cabinet Office, Policy Lab was created in early 2014, after series of public service design projects by the British design council. Policy Lab was established as part of the Civil Service Reform plan for more open policymaking (UK Government, 2012) [32]. The team aims to support policymakers with their desired impact rather than serving as an internal consultancy (Bailey, Lloyd, 2017) [33]. As a "proving ground" it has furthered a long-term shift in policymaking practices working with policy teams in government departments through workshops, short and longer projects and sharing its tools and skills (Siodmok, 2014) [34]. Policy Lab allows policymakers to examine policy problems, involve and reflect a broad range of perspectives on problems, and generate and explore various ideas, which resultantly allows them to construct new organizational capabilities. (Kimbell, 2015) [35]. The team currently comprises nine members with different specialties in design, research, or policymaking and works with a wide range of experts on different projects (UK Government, 2018) [36]. As most of the projects the team has worked on are across government departments, they require high collaboration, which makes it difficult to measure the team's exact contributions. Since Policy Lab is currently at an early stage of development, they are finding it difficult to improve outcomes conclusively and hence, so far, only one project has developed into a government service and has been implemented at scale. (Kimbell, 2015) [35]. However, based on his year of participant observation in the team, Kimbell (2015) [35] contends that encounters triggered by the team, between designerly expertise and policymaking practices, highlight the nature of "good work" within citizens' lives, not "government policy" or "reducing costs". It affirms the irreducible politics toward the people who are the objects of government policy.

There is a growing number of trials to improve public services using designerly perspectives, though there has been little substantive execution thus far, supporting the idea that this method is worth consideration. From projects in the private sector to identify market opportunities and government department-wide projects to withdraw specific solutions, empathic approaches are now employed as a strategic way to communicate with citizens and related institutions to create better.

2.2. Empathic Design Approach of South Korea through Citizens Policy Design Group

2.2.1. Venture to Design Public Service of South Korea

Announced in 2018, South Korea's "Better Government" initiative pursues government innovation to improve people's lives (South Korea Government, 2018) [37]. The initiative, differing from the "2013 Government 3.0" initiative (South Korea Government, 2018) [37], succeeds in and develops the belief of design's value for the public sector to reorient its policymaking process toward a people-centered and supportive open innovation policy system that boosts rapid growth of the nation (Yun, Jung, Yang, 2015: as cited in Yun, Won, Hwang, Kang, and Kim, 2015) [38] (see Figure 2).

One of the initiative's goals is to offer a designer's perspective, centering users' values into the public service sector to reorient the public policymaking process to be more citizen-centered. This means that the success of this initiative depends on the participation of civil servants and citizens who will be affected by the resulting policies (Park, Lee, 2015) [39].

In line with the open government trend of capturing citizens' hidden needs and delivering tailored policies and services, both initiatives of South Korea share the intention of the participatory public administration "Citizens Policy Design Group" model. Created in 2014 jointly by the Ministry of the Interior, the Ministry of Trade, Industry and Energy, and the KIDP under the Government 3.0 initiative, the model presents a fresh approach to policymaking areas where citizens have chances to design policies closely related to their everyday lives by participating in interviews, observation, and workshops (MOIS, 2018) [40]. Since 2015, local governments, as well as central government

agencies, have begun to support the activities of the design groups in earnest. From 2015 to 2017, the Ministry of the Interior and the KIDP annually selected dozens of projects submitted by local governments and government agencies and provided administrative support by connecting service designers with each project, funding projects with operating subsidies, guiding projects' overall time frames, and providing teams with basic guidelines. They helped each citizen design group composed of about seven members who are a combination of citizens, service designers, and government officials to work together. During the project period of about five to six months, each group was guided to visit various policy-related sites and engage in diverse joint empathic design activities to discover peoples' latent needs. Working with the other group members allowed officials to face those who will be affected by their policies and experience the empathic approaches of designers.

(**a**)　　　　　　　　　　　　　　　　　　　　(**b**)

Figure 2. (**a**) Government 3.0 Initiative Symbol; (**b**) Better Government Initiative Symbol (South Korea Government, 2018) [37].

The "Citizens Policy Design Group" model is armed with a collaborative and co-working approach that contrasts traditional bureaucratic models of opinion gathering. This challenge means departing from the top-down processes of policymaking and creating new political structures, and building social innovation through participative, co-creative, bottom-up methods. It creates an innovative governance paradigm through the "use of purposive inflows and outflows of knowledge", and creates open innovation (Chesbrough, 2006, p. 1) [41]. This fresh trial provides policymakers with opportunities to rethink policy and reshape public service delivery.

2.2.2. Current Conditions of Seoungju Dementia Café

Seongju county (Seongju-gun) in North Gyeongsang province, located immediately west of the city of Daegu, South Korea, is a largely agricultural area. While the nationwide over-65 population was 6,775,118, this county was populated with 11,470 people aged 65 and older and 27,979 people aged under 65, making in total 39,449 people, excluding foreigners (Statistics Korea, 2017) [42]. This means that, as of 2017, the county's over-65 population occupied about 29.1% out of the county's whole population. This number was more than twice as high as the national average of about 13% of South Korea and the threshold of 14% of aged societies. For reference, overall over-65 population of South Korea was only 3.1% of the whole population in 1970 and the percentage reached 7.2% in 2000. However in 2060, it is expected to be 40.1% (Kim, Shin, Lim, Son, 2013) [4]. As such, in 2000, South Korea had already become the fastest aging society, and in 2018, it is projected to be a society whose over-65 population takes up more than 14% of the total population. Meanwhile, the senile dementia prevalence of the county increased from 8.7% in 2010 to 9.8% in 2017 (Statistics Korea, 2017) [21] which is approaching the national average of 9.94% (National Institute of Dementia, 2018) [43]. With the growing number of the elderly showing about a 10% prevalence of dementia, community health centers offering public healthcare services and comprehensive primary and preventive medical, mental healthcare has started to include dementia-related healthcare administration such as surveillance/monitoring, primary prevention, and early detection and screening. Nevertheless, a remarkable portion of the elderly of the county

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required more active steps to promptly cope with dementia-associated problems. Hence, the county government, accepting an official's opinion, set up the Dementia Café, an in-kind satellite office of Seongju community health center in 2016. The café is in the Seongju traditional town marketplace with an aim of discovering more patients and erasing community members' negative perceptions of dementia. Expecting that its location could help identify hidden patients among market visitors, it was set up in the abandoned lounge of the market. To accomplish its responsibilities, it has mainly focused on two aspects: detection and education. For earlier detection, it has applied screening methods such as interviews and the distribution of a special questionnaire, MMSE-K, to older visitors who may be latent patients, patients unaware of their disease, or patients who are suffering from an early-stage dementia. To raise unnecessarily negative perceptions of dementia, it has offered consultations to patients' family members and various leaflets explaining signs, causes and guidelines for taking care of those with dementia to encourage people to regard dementia as part of the natural aging process and remove the stigma that is a mental disorder.

However, in a year since the birth of the satellite office, it has faced difficulties in attracting the interest of market-goers. This may be caused by its lack of workforce, its unfriendly office interior, and its psychological distance from market-goers and merchants. Examining its workforce more closely, the office has opened and operated every five days, mainly with two middle-aged female volunteers and the key official who originally suggested and was involved in the creation of this satellite office. Since both volunteers have a family member with dementia or other mental disease, they were ready to dedicate themselves to the café as they have the knowledge necessary to consult with visitors. The lack of a substitute for the volunteers puts a burden on them rather than allowing them to gain satisfaction from their community service because this issue does not allow any absence. Meanwhile, however, it seems that if it is possible to fill the key official's role with another employee of the Seoungju community health center, it should be considered whether there is a proper equivalent to the key official, in terms of knowledge and passion. Despite the job rotation system for public servants, this official has, exceptionally, taken charge of dementia-related healthcare administration for four years longer than the normal term of 1.5 years, which has allowed the key official to increase her skills, experience, and knowledge. To reduce psychological distance, the café provides its visitors with free coffee, a seat to rest on, and a shopping bag as well as small talk. During these conversations, visitors are given information about the satellite base and dementia and are asked to contact the healthcare center regularly if it is suspected that they may have dementia. If, during the conversation, some indications of dementia were noticed, the visitor is requested to fill out the questionnaire. If the test results diagnose the visitor with dementia, the community health center informs the visitor and hands him/her over to a hospital. However, the café staff members thought that such activities were inadequate for accessing and detecting patients and sought to find more effective strategies to accomplish their goals.

3. Materials and Methods

The literature materials above directed the citizen design team that was organized for Seongju Dementia Café project to employ qualitative empathic research methodologies. Hence, to obtain hidden insights for designing better stakeholder experiences rather than for designing practical functions, the team took an exploratory approach, which was a more effective way to determine less obvious patterns (Alam, Perry, 2002) [44]. In-depth interviews (Carson, Coviello, 1996; Merriam, 1988) [29,45], observation, and contextual research provide deep and detailed data only by allowing researchers and practitioners a physically and psychologically closer examination of the phenomena. Our team conducted interviews with stakeholders including service providers and customers of the Dementia Café and conducted observations and workshops over six months to delve into the complex phenomenon and find better outcomes.

Interviews were carried out with ten service providers (two volunteers and one official of the Dementia Café, and seven officials of healthcare center) and ten customers who were visitors of the

café from regular or irregular visitors to first-time visitors (see Table 1). To encourage the articulation of thoughts and feelings, interviews were semi-structured and one-on-one, and were performed at the Dementia Café or the healthcare center with which all participants were familiar. In the meantime, observations were performed four times, mainly to capture tacit information, such as external and internal conditions of the café interactions between visitors and staff members and their facial expressions and gestures (see Table 2).

Table 1. Characteristics of Interviewees.

Classification	Age/Gender	Note
Service provider 01	50s/Female	Volunteer of the Dementia Café, having started by request of the key official and doing longer than a year without replacement
Service provider 02	50s/Female	Volunteer of the Dementia Café, having started by request of the key official and doing longer than a year without replacement
Service provider 03	40s/Female	Previous manager of the Dementia Café, having led the café since its inception as key player but having left via the rotation system
Service provider 04	30s/Female	Current manager of the Dementia Café, recently assigned to the position with the new initiative of the central government (contract worker)
Service provider 05	30s/Female	Nurse of the health center, from time to time, helping the café whenever asked (contract worker)
Service provider 06	30s/Female	Social worker of the health center, from time to time, helping the café whenever asked (contract worker)
Service provider 07	50s/Female	Manager of the health center, managing overall health issues of the county including the Dementia Café
Service provider 08	50s/Female	Education tutor for dementia patients, receiving a little compensation but almost volunteering at the health center
Service provider 09	40s/Male	Public official dispatched to the health center from health-related department of the county government, recently assigned to the position
Service provider 10	40s/Male	Public official of the county government, charged with administration work of the county government, not related to Dementia Café issues, but knowing it
Service receiver 01	70s/Female	Lives near the market with her husband with dementia and knows the café but does not visit. Visits the market every market day to sell produce from her vegetable garden for fun
Service receiver 02	70s/Male	Knows he has dementia and is aware of the café at the market but has not visited. Is participating in the education program
Service receiver 03	70s/Female	Lives near the market with her son who has mental disease, has dementia and negative feeling toward dementia. Drops by the café to rest or have free coffee and still earns money for managing lives
Service receiver 04	70s/Male	Has dementia, lives alone, and knows about and visits the café only for free coffee and rest but does not want to visit it because their programs and activities are not interesting
Service receiver 05	70s/Male	Lives with his wife and uses a motorbike for transportation Knows the café through the health center, where he participates in dementia education programs with his wife (both have dementia) No negative perspective to dementia
Service receiver 06	70s/Male	Lives with his wife who has dementia, sometimes visiting the café to get consultation for his wife but not wanting others to know his wife has dementia, meaning that she does not like visiting the café
Service receiver 07	70s/Female	Lives with her husband who has dementia, sometimes visiting the café to get consultation for her husband on market days Is happy with the small gifts of the health center and the café and wants to get a dementia educational program
Service receiver 08	70s/Female	Enters the café by the alley of the market. It is her favorite place but she shows strong wariness to the café staff members
Service receiver 09	50s/Female	Lives with her mother who has dementia (her mother does not know her disease), lets her mother participate in the health center programs Knows the café but has not visited
Service receiver 10	70s/Female	Has dementia, lives with her daughter at the daughter's house Participates in the dementia education programs at the health center and comes to the center by taxi but has not visited the café
Service receiver 10	40s/Male	A merchant of the market next to the Dementia Café Knows the café but does not have any relationship with the café

Table 2. Outline of Observation.

Date	Place	Issue	Note
13 June 2017	At the health center and the Dementia Café	External environment of the café General conditions of the community market	Not on market day
22 June 2017	At the Dementia Café	Internal environment of the café External environment of the café	On market day
25 July 2017	At the Dementia Café	External environment of the café General conditions of the community market	Not on market day
12 October 2017	At the Dementia Café	Internal environment of the café External environment of the café	On market day

Through the investigation, the team generated rich data including interviews, citations, field notes, photographs, and videos, which were used to identify patterns of stakeholder relations, develop personas, and create representative journeys. These visualized analyses served as contextual "representations" of experience (Tassi, 2009) [46] and made the service more tangible (Kimbell, 2009) [47], allowing researchers to quickly immerse themselves in the project (Sleeswijk Visser, 2009) [48] and attracting more interest from practitioners rather than academics. In other words, these tools, alongside the data visualization, contributed to providing holistic understanding, transferring information, providing inspiration, enhancing empathy, and supporting engagement (Sleeswijk Visser, 2009) [48]. Using the collected material and analyzed data, we identified key problems and created possible solutions. Then, from more practical and feasible views, potential solutions were prioritized through workshops with all team members.

4. Results

4.1. Themes from Interview and Observation

The material on which we based our analysis was derived from the field consisting of verbally articulated opinions in interviews and tacit non-verbal information from observation. The design team carried out thematic analysis based on empirical data from the investigation. After gathering data such as transcripts of the interviews, field notes and photographs, we identified patterns by clustering similarities in the material through discussions. The next step was to arrange the material around themes defined by the clusters we had identified. These themes were: sustainability of operation, locational and perceptional environment, and management of clientele.

4.1.1. Sustainability of Operation

In this theme, comments and observations were concerned with the lack of resources necessary for running the Dementia Café. Though there have been efforts to set up the café as a base for fighting dementia, the café faces the problems of a limited workforce and insecure location. The café had been operated mainly by the trio of the two volunteers, and the café manager who was the key official, the first proponent of the café without any additional volunteers. The café is currently run by a trio of volunteers and a new café manager, a newcomer to the county and the office. Even though the group of three people were ready to dedicate themselves to the café, and other personnel from the county health center were willing to provide assistance whenever they were requested to participate, the fact that there were no substitute volunteers placed an enormous burden on the core group. Due to this workforce shortage, the café has only operated during the market's two most busy hours (around 1:30–3:30) on market days.

"Last year, I never missed this volunteering work since I well understand the café's situation. The problem is the future not now. While getting older, we get to be tried." (SP 01)

"From an objective view, they (the volunteers and the official) are really great. Though usually public servants including me do not try new things', they have managed it without any additional volunteers." (SP 10)

"This facility has been run with very limited resources, workforce, volunteers, equipment and others. If they quit, we don't have any alternatives currently." (SP 06)

"We belong to the health center but when some events occur, then we support them here-the café." (SP 07)

"Its operating hour seems to be a bit short. It opens only for two hours in the afternoon every market day." (SR 10)

From its establishment to the present, the key official who first proposed the Dementia Café was at the center of its operations. Dispatched from the county government to the health center, the key official had been charged with dementia-related administrative tasks such as counting the number of dementia patients, discovering new patients, and developing dementia education. As the task of setting up this base was given to the key official as the proponent of the idea and entrusted to her with four years' experience as the manager of the café, it was rapidly set up and had been successfully operated in poor surroundings. Meanwhile, this volunteer single-player system, like many other cases, faced risk from a shortage of systematic support. The effects of the absence of this main player demonstrates this problem; it suddenly occurred in practice and fortunately the absence was filled with special measures resulting from the national support system for dementia treatment and care that was announced in 2017.

"We started this volunteering work because of the manager's ask. We knew the manager." (SP 01, 02)

"The manager had been in charge of dementia-related administration job for four years, which is exceptional. According to the job rotation system of public servants, every position is usually replaced every 1.6 years." (SP 03)

"Yesterday, we've got the notice saying the original café manager would be moved to another position. So I strongly complained there was no discussion and talk because we are not prepared yet for running the café without her." (SP 06)

"I am a new comer of this café and this county. Currently I don't have sufficient knowledge about this job but I will learn everything eagerly." (SP 04)

This satellite office model of the county health center is a fresh approach to discover latent patients and to increase the understanding level of people with dementia. Through the interviews with the service providers, they are proud of the fact that the Dementia Café has no precedent and is the very first such measure to deal with dementia problems in South Korea. To meet more people's needs, the café was open at the traditional community markets which many older people tend to visit periodically whenever the market was open (every 5 days), but which was starting to decline. Because the location of the café originally was the abandoned market lounge, they could use it for free. Instead of free use, the market merchants wanted for the café staff to keep the place clean and expected it to draw more market visitors. This condition seemed currently financially helpful but, in the meantime, indicates that it might become a risk for this café to leave the lounge if the market merchants want to take it for other uses. Related to this, temporary use also prevents it from making the place more welcoming such as setting out signage, equipping it with built-in furniture, etc.

"We have to use public toilet to get tap water. It's inconvenient but we cannot put any facilities because this place is owned by the market and we've just lived off the market." (SP 01, 02)

"I got to know this café through officials of the healthcare center. Before, when I had visited this market, I didn't see this café." (SR 01, 04, 05, 06, 07)

"The Dementia Cafe is the very first and unique model among any programs of local governments in South Korea to deal with dementia problems." (SP 03)

"Whenever, I come to this market, I drop by this café to get free coffee and water, or to rest." (SR 03, 04, 07)

"I come to this place to get consultation about my wife with dementia. Having conversation with volunteers or the official having similar experience or more knowledge, I usually feel comfort." (SR 06)

4.1.2. Locational and Perceptional Conditions

This theme is based on comments and insights obtained from interviews and observations that depict external conditions of the Dementia Café at the traditional community market place and the challenges of drawing market-goers' notice. As an undertaking of the set-up of the café, it was hoped that the café's location and perception on the market might create synergy effects. In terms of the location of the café, it is placed in the community market, one of the representative spots of Seongju. It is located near the county office in downtown Seongju, which possibly offers easier accessibility to people than the healthcare center outside of town. In view of this perception, this market has been a central point to citizens of the county. Generally, traditional community markets have been considered as centers of gathering and communication for county citizens, and therefore it has been regarded as an important place in Seongju. Though the large discount store, E-Mart, was built and many small stores appeared, it is a favorite place of older people and the notion that the market is the central place of the county is rooted in the thoughts of those people. The positive aspects of location and perception were supposedly regarded as helpful factors in developing new clientele. However, unlike initial expectation, despite the community market's popularity, well-known to every county member, the number of café visitors was lower than the officials' expectation.

"This traditional community market has been the center of this Seongju county in communicating and gathering and only the community market for long time. It was booming but nowadays many people go to the large store around here. This situation is quite similar to other counties." (SP 09)

"Almost every market day, I've come here to sell some produce from my vegetable garden and earn money. It's fun." (SR 01)

"On my first visit, I could not find the café. Despite location information of the café got from the healthcare center, it was hard to find the café." (SR 05)

"Recently, the new large discount store, E-Mart, was built near this market place. It might be bad for this market so that it called for a counter step of the community market." (SR 11)

The café seems not to take eyes of passers-by at all. Although this café was at the very entry to one of the two alleys, most of them passed by the café showing interest in merchandise displayed. Some people stood in front of the cafe and stared at it for a second but went by it as well. (Observation from researcher)

4.1.3. Management of Clientele

This theme is based on comments and observations obtained from the empathic approach that depicts the challenges of drawing café visitors. Since the questions regard knowing or not knowing and having visited or not visited the café, in principle there could be four groups. However, in this

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study, the author divided into three categories: one group of knowing and meaning to revisit the café, another of knowing but not having intention to (re)visit the café, and another of not knowing the café (so having not visited or having visited the café on the day of observation) (see Figure 3).
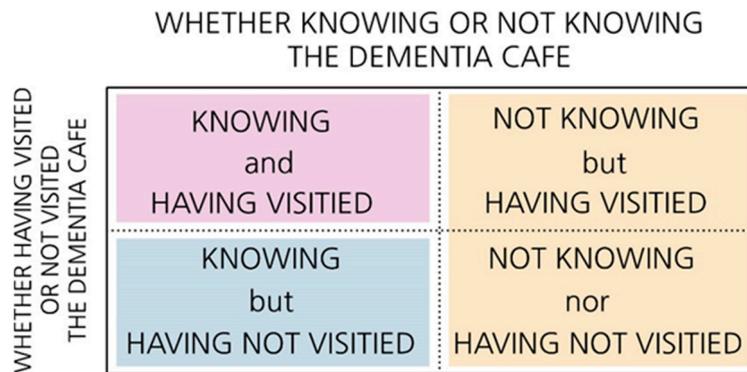

Figure 3. Groups of interviewees by whether knowing or not and whether visiting or not.

In the first group, there were people who knew the café via the healthcare center. They, as regular customers of the healthcare center, have closeness to the café and were asked to visit it by the center officials and then, having been asked, visited the café. They were dementia patients, or their family members were listed on the patient directory, so were placed under administrative management of the healthcare center and the local government.

"Since my first visit, I have dropped in from time to time whenever the officials and volunteers call and ask me to visit." (SR 01)

"If there are facilities to provide dementia treatment programs, I'll visit them with my wife." (SR 05)

"I've usually dropped by the café during or after shopping to rest and enjoy free coffee. I like small gifts such as a fabric bag, or others getting from the café. I brought my friends to get a dementia test at the café." (SR 07)

On the other hand, the second group also consists of dementia patients or their family members put on the center's list as with the first group. Though they were informed about and requested to visit the café, they have not visited yet or visited only once with less interest or intention to (re)visit.

"My husband and I got to know this dementia café through the healthcare center where we get physical therapies but we have not visited the café because we don't have specific reasons to visit." (SR 01)

"I have regularly attended treatment programs for dementia patients at the healthcare center but their contents are not interesting at all to me. I've participated the programs to get over dementia. I heard about the café at the community market but I have not visited the café ever." (SR 03)

"On market days, I have dropped by this café which I got to know through the healthcare center to drink water and to rest. I am not interested in activities of the healthcare center and the café such as beads string, paper folding, coloring and others. Additionally, those things are useless." (SR 04)

Meanwhile, the last group could be thought to be pure market-goers with little or no relationship with the officials of the healthcare center and not knowing the café. This group also included people who were asked to visit and so got to know the café on the spot on the day of observation.

"If more various free gifts are given to visitors, it might be easier to approach to and ask passers-by to enter the cafe." (SP 01, 04)

"People think dementia as insaneness rather than a type of disease to recover. So people with dementia tend to hide their disease. So it is difficult to clearly and publically speak that this place is for dementia patients or their family." (SP 06)

"Before today, I didn't know this place. Sometimes I've come to this market though I didn't see this place. I'm not a dementia patient. Should I tell my address and telephone number?" (SR 08)

When passing the market alley, if asked for dropping by the café by a volunteer, an older visitor seemed to be alert to the staff member of the café. After stepping in the café and getting informed with the café, the visitor appeared to be careful for providing personal information. (Observation from researcher)

Some people stood in front of the cafe and stared at it for a second but went by it as well. (Observation from researcher)

4.2. Identifying Key Stakeholders and Behavior Patterns through Visualized Analysis

With facts identified via literature materials, interviews and observations, visualized analyses were executed to deliver and share a clearer view on the Dementia Café service. Major and minor figures were shown on a stakeholder map. A stakeholder map is a visual representation of various groups involved with a particular service and defines people or groups that are involved in using and delivering the service. By describing who the players are, why they are there and the relations between them, the map highlights the issues concerning each stakeholder group (Stickdorn, Schneider, Andrews, Lawrence, 2011) [49]. By using critical characteristics (CC) (Beyer, Holtzblatt, 1997) [50] drawn from twenty interviewees' opinion (ten service providers and ten receivers) who had comparatively direct relationships with the café, there was an attempt to find the tendencies of service providers and receivers. This analysis of CC is a process that aims to create a persona which clarifies a user description focusing on the user's goals and behavior patterns (Cooper, 1999; Cooper, Reimann, Cronin, 2007) [51,52].

4.2.1. Stakeholder Map of the Dementia Café Service

Based on the literature review, interviews and observation, the stakeholder map, as visualized analysis shows, was developed, allowing us to have an aerial view of who participated this service, what happened between the stakeholders, and which interactions succeed or fail. The map shows that the most critical players among the stakeholders are the Dementia Café team, since they, creating various interactions, act as a bridge between service providers and receivers at the very front line to meet people. However, the map shows their interactions frequently fail. Looking more closely, it suggests that market-goers pass by the café with no interest in the café, new café visitors feel uncomfortable providing their personal information to the staff, and registered visitors who are mostly dementia patients reluctantly revisit the café only to show appreciation to the staff and not for their own benefits. Additionally, an only two-hour operation of the café on market days with limited workforce supposedly blocks the discovery of more latent patients and extending of its contact list. While it might be presumptuous to evaluate the quality of each interaction, it is clearly identified whether an interaction exists or not. One thing to consider is that there is no direct interaction between the café team and the associated hospital. The café staff members can see older dementia patients on their list in the same community, while the associate hospital is informed of disease progress records of and offers medical treatment to the patients (see Figure 4).
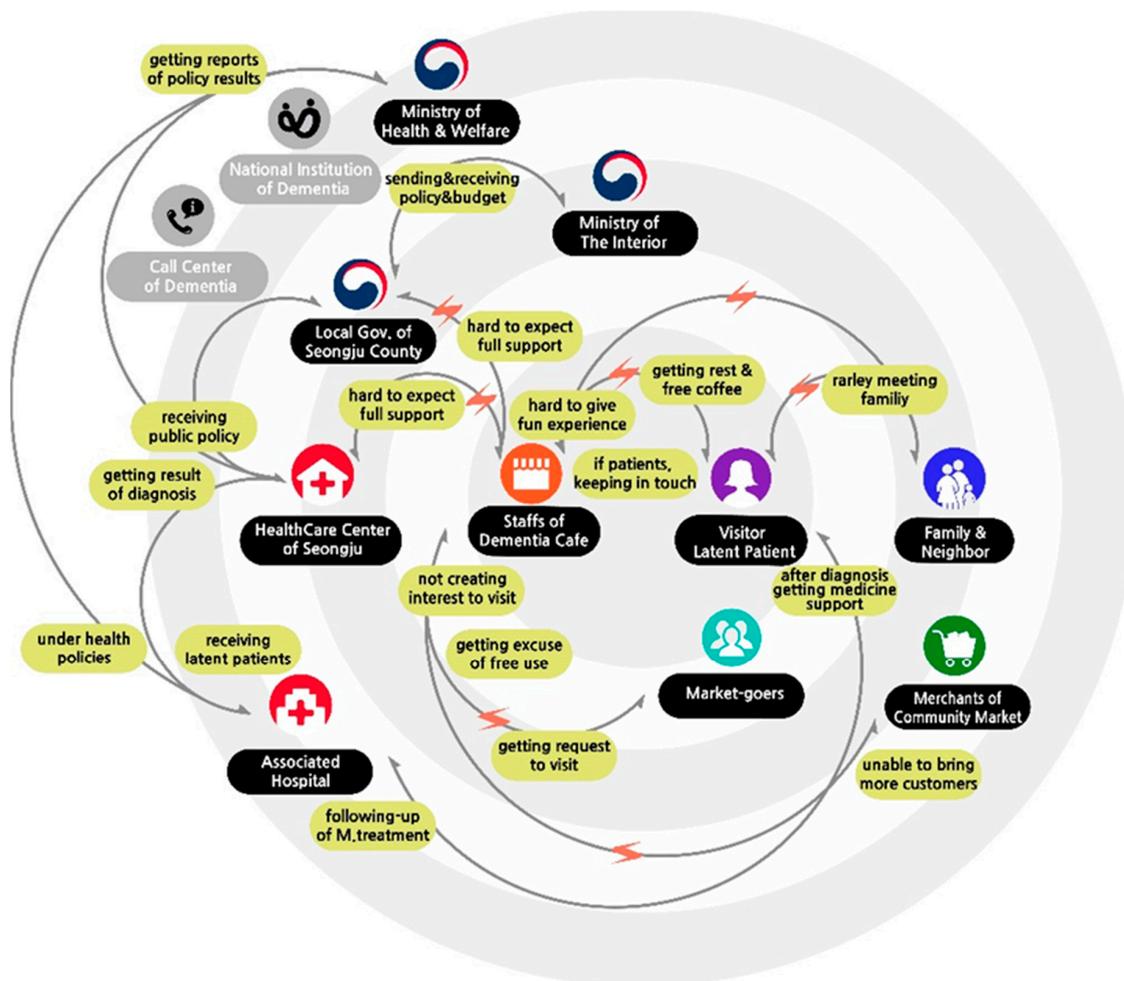
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Figure 4. Stakeholders map of the Dementia Café in Seongju.

4.2.2. Critical Characteristics of Direct Stakeholders of the Dementia Café

Analyzing comments of interviewees by groups of service providers and service receivers, as many CC as possible determining interviewees' behaviors were drawn from each interviewee and then selected representative ones appearing in common were selected into groups. Objective factors rather than subjective were chosen, such as time spent at the café on market days, length of work in the position for service providers, distance from his/her house to the Dementia Café, and frequency of visiting the café for service receivers.

When arranging interviewees of the service provider group by their CC, two volunteers were considered as one figure because their opinions and behavior were identical. Regarding service providers' characteristics, three dimensions of eight factors were selected: surroundings of work (work period in the position, regular length of term, type of job position, having substitute worker and day off), café involvement (assigned place to work on market days, time spent in the café on market days), emotional closeness to regular visitors (frequency of contacting people on the list, relationship length with most regular visitors).

Even though all the café team members and most supportive officials helped operate the café, taken as a whole it was difficult to find a clear discernible pattern between the service providers. When narrowing the scope down to current members of the café, and additionally referencing the previous café manager, there may be a more specific operational situation of the café. The volunteers moved together with or were placed in the middle between the previous and current café managers,

especially regarding factors influencing job performance. The biggest differences between the managers appeared in the factors of the work period, the relationship length with regular visitors, and the type of job position. In the dimension of café involvement, the managers and volunteers were marked at the same points (see Figure 5).
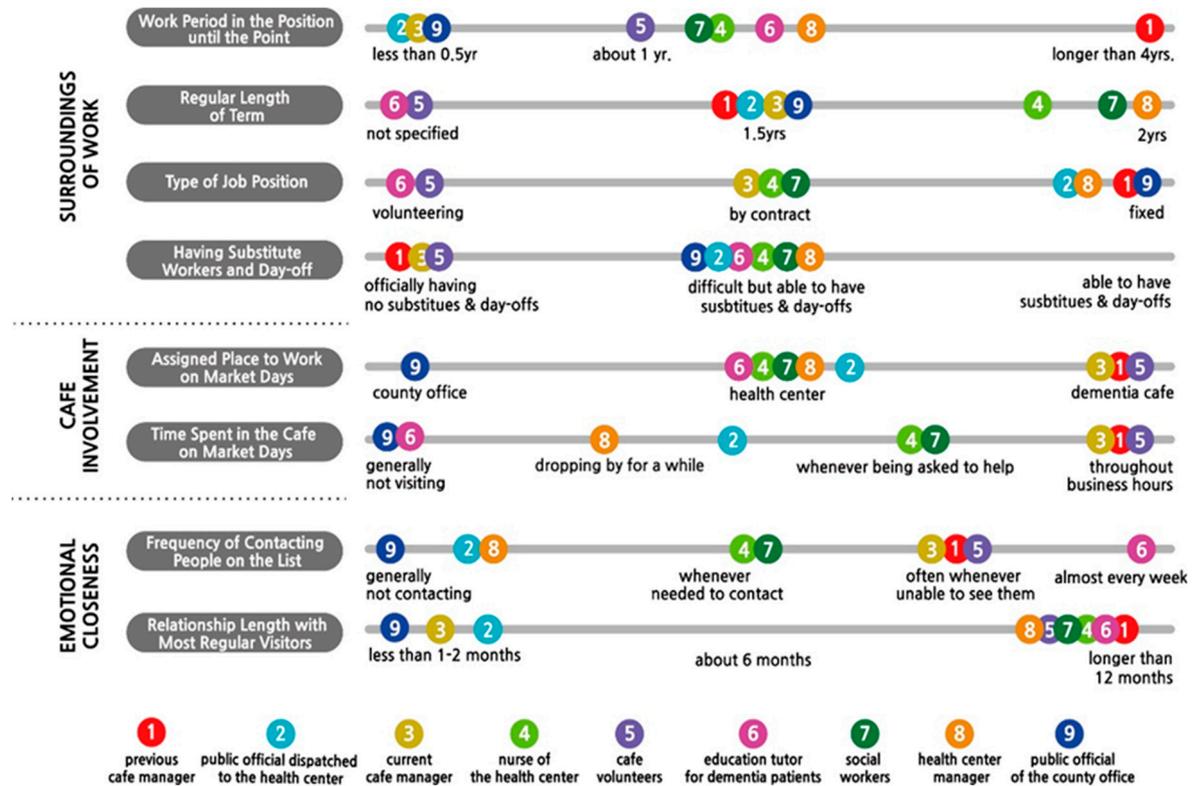

Figure 5. Critical Characteristics Analysis of Service Providers of the Dementia Café.

By contrast, in arranging interviewees of the service receiver group by their CC through discussion in the design team, four dimensions of eight factors were selected: surroundings of individuals (house mate with distance from offspring, distance from home to the market and the café), mobility and activity (how-to-get the café/the health center, frequency of visiting the market), café satisfaction (frequency of visiting the café, channel of getting to visit the café, major reason to visit the café), and attitude to dementia (feeling to dementia of the patient/the care-giver).

In the service receiver group, many of them live near the café or the health center but were not using the café. In the meantime, those with positive views toward dementia have used the café for whatever reasons. When grouping interviewees according to similarity of their CC patterns, three groups could be observed. One group consisted of people using the café as a place to rest or to get counseling, another was concerning people disregarding for usefulness of the café, and another was people not using or accidently visiting the café showing strong negative perspectives to dementia (see Figure 6).
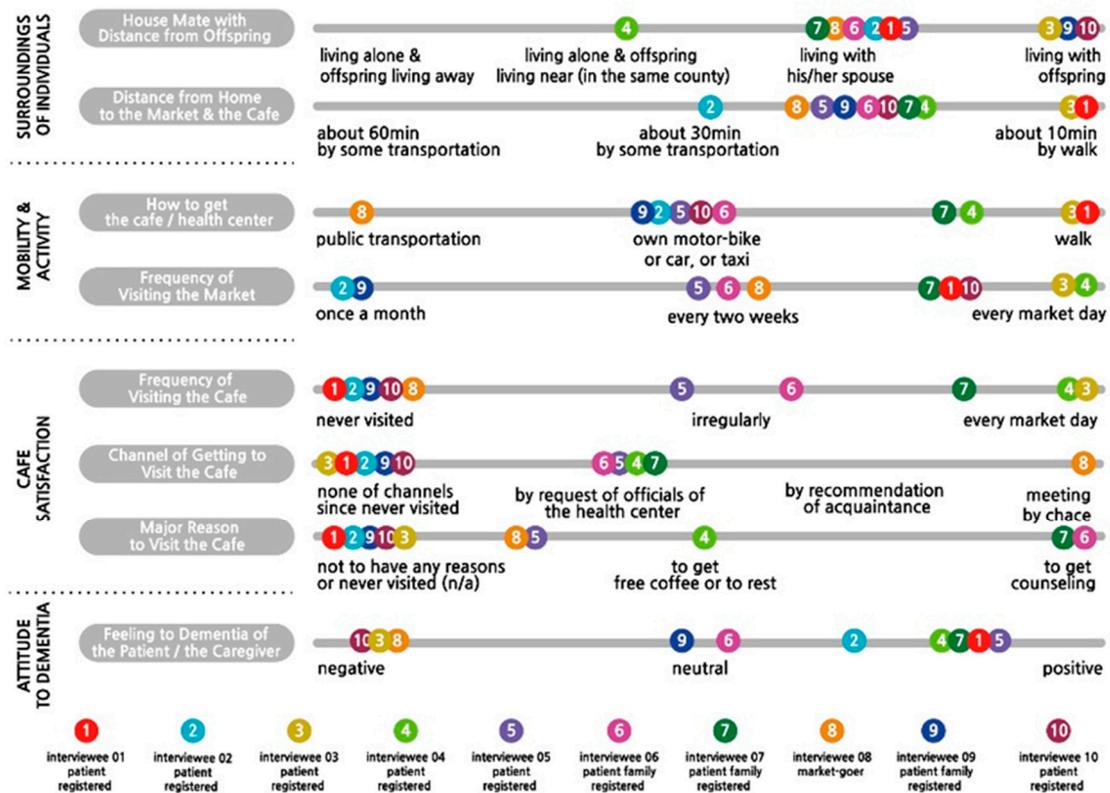
Figure 6. Critical Characteristics Analysis of Service Receivers of the Dementia Café.

5. Discussion

Based on information from interviews and observation, three themes of the Dementia Café were drawn and visual analysis of the stakeholder map and CC of direct stakeholders revealed problems which are possibly going to turn into chances to improve service of the Dementia Café.

The theme of sustainability of operation, highlighting lack of resources, provides opportunities to consider its effectiveness regarding the volunteer single person system, which vulnerable to changes. The issue of location and perception conditions shows negative factors of the market's decline, and the Dementia Café's unfamiliarity hides its benefits. The management clientele suggests many visits are made not because of their needs but as a token of their appreciation for the officials' commitment. In CC analysis, meanwhile, it is worth pointing out that the indistinct patterns of the service providers, rather than the service receivers, seems to be associated with personnel shortage from the sustainable operation theme. Since the previous manager and the volunteers of the café have unusual CC patterns, there was no identical pattern between the previous and current café managers with the same role. It is hoped that the current manager will be as capable as the previous manager who was an exceptional case, staying in her position for longer than double the normal term.

These findings from the themes and CC analysis point at extremity accompanying uncertainty. Since the Dementia Café heavily stuck to the volunteers and the previous café manager of distinction, the current condition of the key official suddenly, recently leaving by the rotation system of public servants explains the reason for building a new systematic support, distributing the burden of the café staff. Although most service providers blamed the shortage of workforce and lack of resources for the extremity, its cause is worth being considered more carefully. Given the uniqueness of the local government system of South Korea, effectiveness of public services of local governments seems to be influenced by financial and political factors (Son, 2010) [53], and their welfare expenditures can be determined by financial conditions, especially when they are evaluated as a lower or middle financial independence group (Choi, 2005) [54]. Meanwhile, taking an integrated perspective of policy

decision-making and implementation (Pressman, Wildavsky, 1973; Elmore, 1979) [55,56], when policy failure of local governments is involved with four dimensions—human, resource, procedure and operation, and environment—there are various factors such as policy implementers' intention and policy beneficiaries' satisfaction (human), time constraints, financial support, sufficient information (resource), validity of policy purpose, fidelity of policy implementation plan (procedure and operation), other associated policies at home and abroad (environment) (Han, 2010) [57]. In accordance with the integrate perspective, the most significant determinant of implementing new public services is identified as a local government's innovation intentions, for example willingness to change (Kim, Kwon, Lee, 2010) [58]. Success of a local government's own policy strongly depends on intention and efforts of the leader of a local government, whose political leadership is a more important factor than administrational leadership (Lee, 2012) [59]. Some of the studies suggest the workforce shortage of the Dementia Café possibly arises from a lack of resources of the local government since the financial independence rate of Seongju county is 19.42%, which is much lower than the national average of 53.8% (Ministry of Interior and Safety, 2018) [5]. On the other hand, other studies show that the problem of the café is related to lack of intention of the county governor and other various factors. Unless there are dramatic changes in the county's financial condition and the governor's and county's intentions, the current situation will continue. Thus, to fill the shortage of workforce and supports, community-based social business enterprises and IT systems should be suggested. The social enterprises working on an open innovation platform can possibly achieve higher efficiency in the public and non-profit sector where enterprises' sustainability is significant for achieving long-term goals (Svirina, Zabbarova, Oganisjana, 2016) [60].

On the stakeholder map, visualized players and interactions reveal an absence of interaction between the major players, the associated hospital, and the Dementia Café. Instead of alienating sons and daughters, the café staff members or the volunteering education tutors have a close relationship with older dementia patients, but they are unable to access older patients' medical information to know the exact treatment status of the patients. This barrier is related to privacy and personal information security but an administrative measure such as information-sharing with limited trustful officials under patients' consents may increase dementia care effects for older patients living alone or only living with a partner. In terms of the conflict between personal information management and social responsibility, adult guardianship (Park, 2011) [61] is possibly referred. Visualization of language information, such as that which eased detection of missing interaction in this study, can be a filtering and sharing facility of information (Chen, 2006) [62]. Gaining insights from interpreting each individual stakeholder's experience appears to seek patterns that are comprised of certain traits shared by each piece, similar to putting a jigsaw puzzle together. Likewise, our research indicates that obtaining insights to problems requires a deep understanding regarding the stakeholders. The empathic approach allows us to gain a practical understanding of our stakeholders by directly experiencing their lives and what if feels like to be a stakeholder. Best of all is that the approach presents equality of legitimacy and value in inputs from all the stakeholders involved, whether their suggestions are through interview entail large- or small-scale changes (Donetto, Pierri, Tsianakas, Robert, 2015) [63].

6. Conclusions

As service design, implementing empathic approaches in public policy and service, begins to receive more attention, and an aging domestic population with dementia increases, this study investigated stakeholders and their interactions in delivering the public service of the Seongju Dementia Café. In the project, performed as part of a government innovation initiative, through interviews with stakeholders, operational and managerial issues were detected, and in visual analysis, a missing interaction between two major stakeholders and factors influencing their behavior and thought were discovered, indicating that information was lost and that there exists a perception gap. Thus, it was confirmed that adopting an empathic approach and visual analysis of service design enables policymakers to take other stakeholders' perspectives, rather than maintaining their own

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views. Furthermore, problems and insights discovered in this study are beneficial for proactively preparing for issues of new dementia community centers not having any results at their very early stages. Additionally, the methods and process applied in this practice can be transformed into design knowledge and possibly referred to when designing other public services. Since the research was accomplished primarily by qualitative approaches, there may still be limits caused by not including benefits of quantitative approaches in such a large-scaled survey, and these are subject to further research. Future study should include other research methods such as a survey, and it will be promising to consider the benefits of quantitative research methods. In addition, because this study was more focused on analyzing stakeholders' experiences, it could not provide various solutions to problems found. Therefore, in the following studies, creating solutions with solid evidence is needed to improve the quality of the public dementia care service in Seongju.

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